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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,758	01/02/2002	Casey R. Winkel	42390P13050	7534

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD, SEVENTH FLOOR
LOS ANGELES, CA 90025

EXAMINER

JONES, JUDSON

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/037,758

Applicant(s)

WINKEL ET AL.

Examiner

Judson H Jones

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 5-7, 9-12, 14-16 and 21-26 is/are rejected.
- 7) ☒ Claim(s) 8, 13 and 17-20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: *Restriction requirement*

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Grouse 4,618,806 A. Grouse discloses in column 3 line 67 to column 4 line 6 a motor having a coil with two bifilar windings. See figure 3.

In regard to claim 10, see Grouse figures 1 and 2 and column 4 lines 39-46. As can be seen from figure 2, there is a lobe above or below each lug 20, 20' and as can be seen from figure 1, there are 4 lug 20s and 4 lug 20's, for a total of eight lobes.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grouse in view of Louwagie 5,577,924 A. Grouse discloses a motor having a coil with two bifilar windings with circuit elements which may be mounted on a circuit board 22 as described in column 5 lines 34-39 but does not mention pads. Louwagie discloses pads used on printed circuit boards in column 8 lines 45-54 and further discloses redundant wires, windings and contact pads in column 8 lines 61-67. Since Louwagie and Grouse are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized pads on a printed circuit board for connecting the electrical circuit elements together because Grouse disclosed no way of connecting the circuit elements.

In regard to claim 11, see printed circuit board 22 in Grouse figure 1

Claim 7, 9, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grouse in view of Louwagie and IBM Technical Disclosure Bulletin NN910187 entitled "Intelligent Neural Support Processor for Preventative Diagnosis and Error Recovery." Grouse discloses a motor having a coil with two bifilar windings with circuit elements which may be mounted on a circuit board as described in column 5 lines 34-39 but does not mention pads. Louwagie discloses pads used on printed circuit boards in column 8 lines 45-54 and further discloses redundant wires, redundant windings and redundant contact pads in column 8 lines 61-67. Since Louwagie and Grouse are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized pads on a printed circuit board for connecting the electrical circuit elements together because Grouse

disclosed no way of connecting the circuit elements. Grouse as modified by Louwagie does not disclose at least two motor control devices coupled in parallel to each of the two electrical pads. The IBM Technical Disclosure Bulletin teaches alternate chip hardware redundancy in the last sentence of paragraph 4 on page 1. Since the IBM Technical Disclosure Bulletin and Grouse as modified by Louwagie are from the same field of endeavor, it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized hardware redundancy for the motor control devices in a motor control apparatus. In regard to the claim language of the control devices being coupled in parallel, the devices would not work if coupled in series. Therefore duplicate control devices would necessarily be connected in parallel.

In regard to claims 9 and 14, see the phrase "by assigning to alternate chip" in the IBM Technical Disclosure Bulletin. Both chips work when assigned to work by the computer software. This is viewed as operating independently of the other motor control device.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umeda et al. in view of Vaidya 4,550,267 A and Osama et al. 6,166,469 A. Umeda et al. discloses a first motor coupled to a shaft and a fan hub as shown in figure 1 but does not disclose a second motor coupled to the shaft. Vaidya teaches in column 1 lines 22-26 that multiple redundant electromotive power sources have been long known in the art. Since Vaidya and Umeda et al. are from the same field of endeavor, it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized multiple redundant motors for a fan. While Vaidya does not disclose details of how such motors are connected together, the easiest way of connecting two motors would be connecting them to a common shaft, as shown in Osama et al. figure 3 and as described in column 2 lines 39-48. Since Osama et al. and Umeda et al. as

modified by Vaidya are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have connected two motors together with a common shaft because Umeda et al. as modified by Vaidya does not disclose how the motors would be connected together.

In regard to claim 16, Osama et al. teaches two motors connected together and sharing a common housing. Connecting two motors such as shown in Umeda et al. together with a common housing would result in the common housing forming a fan enclosure.

Claims 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashibara et al. 4,428,719 A in view of Vaidya and Osama et al. Hayashibara et al. discloses an apparatus comprising a first motor coupled to a shaft 30, a fan hub 31a fastened to the shaft and a fan blade 31 fastened to the fan hub but does not disclose a second motor coupled to the shaft. Vaidya teaches that redundant electromotive power sources in the form of multiple electric motors are known in the art. Since Vaidya and Hayashibara et al. are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized redundant motors in a fan apparatus. Osama et al. discloses two motors connected together on a common shaft. Since Osama et al. and Hayashibara et al. as modified by Vaidya are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have connected two motors together with a common shaft because Hayashibara et al. as modified by Vaidya does not disclose how the motors would be connected together.

In regard to claim 22, Osama et al. discloses two motors in a common housing. Connecting together two motors such as shown by Hayashibara et al. would result in a housing that formed a single fan enclosure.

In regard to claim 23, Osama et al. teaches in figure 3 positioning two motors serially as shown in figure 3.

In regard to claim 24, Osama et al. teaches first and second motors that rotate in the same direction as shown in figure 3.

In regard to claim 25, Osama et al. teaches first and second motors that operate simultaneously.

In regard to claim 26, see Osama et al. column 2 lines 50-54.

Allowable Subject Matter

Claims 8, 13 and 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose or teach two motor control elements operating simultaneously in combination with the other features of claims 8 and 13. The prior art of record does not disclose or teach first and second motors positioned oppositely in combination with the other features of claim 17.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schmider et al. discloses a bifilar winding in figure 4. Stooddy 4,607,180 A discloses redundant motors coupled together. Lopatsky mentions bifilar windings in column 1 lines 28 and

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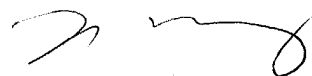
discloses windings 53, 54, 55, 56 in figure 5. Japanese reference 04-265656 discloses a fan hub with attached fan blades in figure 7.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H Jones whose telephone number is 703-308-0115. The examiner can normally be reached on 8-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JHJ
April 19, 2003



Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-4 are, drawn to redundancy of motor control, classified in class 318, subclass 34.
 - II. Claims 5-26 are, drawn to motor stator structure including bifilar windings, classified in class 310, subclass 63.
2. Claims 1-4 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group of claims, there being no allowable generic or linking claim. Election was made **without** traverse during a telephonic interview on April 8, 2003 with Mr. Steven Laut Esq. That is recorded in the attached interview summary.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rita Leykin whose telephone number is (703)308-5828. The examiner can normally be reached on Monday-Friday 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on (703)308-3370.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Rita Leykin
Primary Examiner
Art Unit 2837

Rita Leykin
4/10/03